CLAIMS

1.   A method for establishing a signaling connection
5   between a client terminal and a communications network, the
method comprising the steps of:
        establishing an authentication connection between the
client terminal and the communications network;
        transmitting an authentication message from the
10 communications network to the client terminal;
        transmitting set-up parameters from the
communications network to the client terminal, the set-up
parameters including information for establishing a signaling
connection between the client terminal and the communications
15 network for transferring control data;
        establishing the control data signaling connection
using the set-up parameters;
        transmitting signaling information between the client
terminal and the communications network via the control data
20 signal connection; and
        closing the authentication connection.

2.   A method according to claim 1, further
comprising the step of transmitting from the client terminal to
25 the communications network acknowledgement of receipt of the
set-up parameters.

3.   A method according to claim 1, wherein the step
of closing the authentication connection is performed in
30 response to the establishing of the control data signal
connection that corresponds to a dedicated signaling tunnel.

4. A method according to claim 1, wherein the client terminal is a mobile terminal and the communications network is a 3G network.

5. A method according to claim 1, wherein the step of establishing an authentication connection between the client terminal and the communications network is performed by way of a path including a wireless network which complies with IEEE 802.11 standards.

6. A method according to claim 1, wherein the step of establishing an authentication connection between the client terminal and the communications network includes the steps of establishing EAPOL and DIAMETER connections.

7. A method according to claim 1 wherein the control data signal connection is a GTP tunnel, and the step of transmitting set-up parameters includes the step of transmitting at least one of an IP address and a tunnel ID.

8. A method according to claim 7 wherein the step of transmitting set-up parameters includes the step of transmitting QOS parameters.

9. A method according to claim 1 wherein the control data signaling connection is a dedicated GTP tunnel, and the step of transmitting set-up parameters includes the step of transmitting both an IP address and a tunnel ID.

10.   A method for implementing tight coupling
communications, said method comprising the steps of:
       providing a wireless local area network access point
5   having protocol stacks suitable for operation with a loose
coupling arrangement;
       initially establishing an EAP/EAPOL connection by way
of said wireless local area network access point between a
mobile terminal and a cellular system server for the flow of
10   authentication and control information including parameters for
a control data signaling connection;
       following authentication by said server, closing said
EAP/EAPOL connection and opening a corresponding control data
signaling connection using said parameters.
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11.   A method according to claim 10, wherein said
step of establishing an EAP/EAPOL connection includes the step
of transmitting parameters for a GTP tunnel; and
       said step of opening a control data signaling
20   connection includes the step of opening a GTP tunnel.

12.   A method according to claim 10, wherein said
step of closing said EAP/EAPOL path is performed after said
control data signaling connection is opened.
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13.   A method according to claim 10, comprising the
further step, following authentication by said server, of
transmitting authorization to said access point to pass user
data for said mobile terminal.
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14.   A method according to claim 13, wherein said
step of transmitting authorization to said access point is
performed using DIAMETER protocol.

15.   A method according to claim 10, further
comprising the step, following said authentication by said
server, of reporting to said mobile terminal the success of
5   said authentication.

16.   A method according to claim 10, wherein said
step of closing said EAP/EAPOL path is performed before said
control data signaling connection is opened.
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17.   A method according to claim 10, wherein said
step of closing said EAP/EAPOL path is performed concurrently
with opening of said control data signaling connection.

15   18.   A method for operating a client terminal to
establish a control connection to a communications network,
said method comprising the steps of:
          from said client terminal, establishing an
authentication connection between said client terminal and said
20   communications network, and requesting authentication;
          at said client terminal, receiving an authentication
message from said communication network, said authentication
message including set-up parameters defining a control data
signaling connection between said client terminal and said
25   communications network;
          from said client terminal, setting up said control
data signaling connection by use of said set-up parameters;
          transmitting control information between said client
terminal and said communications network via said control data
30   signaling connection; and
          closing said authentication connection.

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19.   A method according to claim 18, wherein said step of closing said authentication connection is performed after said step of transmitting control information between
5   said client terminal and said communications network via said control data signaling connection.

20.   A method according to claim 18, wherein said steps of (a) establishing an authentication connection and (b)
10   transmitting control information are performed by way of a wireless access point.